

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-10 (Canceled).

11. (Original) A semiconductor device comprising:

a semiconductor layer;

a plurality of semiconductor elements formed on said semiconductor layer;

an isolation film provided in a surface of said semiconductor layer, said

semiconductor elements being electrically isolated from each other by said isolation film; and

a PN junction portion formed by two semiconductor regions of different conductivity types in said semiconductor layer provided under said isolation film,

said isolation film including:

a nitride film provided in a position corresponding to a top of said PN junction portion and having a substantially uniform thickness across said two semiconductor regions; and

an upper oxide film and a lower oxide film which are provided in upper and lower portions of said nitride film.

12. (Original) The semiconductor device according to claim 11, wherein said semiconductor device is an SOI semiconductor device formed on an SOI substrate including a silicon substrate, a buried oxide film provided on said silicon substrate and an SOI layer provided on said buried oxide film,

said semiconductor layer being said SOI layer.

13. (Original) A semiconductor device comprising:

an SOI substrate including a semiconductor substrate, a buried oxide film provided on said semiconductor substrate and an SOI layer provided on said buried oxide film;

a plurality of semiconductor elements formed on said SOI layer; and

an isolation film provided in a surface of said SOI layer, said semiconductor elements being electrically isolated from each other by said isolation film,

said isolation film including:

a complete trench reaching said buried oxide film penetrating through said SOI layer and a partial trench leaving a well region thereunder without penetrating through said SOI layer which are continuously provided;

an internal wall insulating film provided on internal walls of said complete trench and said partial trench;

an internal polysilicon film provided to fill in said complete trench and to be extended over a bottom face of said partial trench; and

an upper insulating film provided to cover said internal polysilicon film and surrounding said internal polysilicon film together with said internal insulating film, thereby electrically insulating said internal polysilicon film.

14. (Original) The semiconductor device according to claim 13, wherein said internal polysilicon film is restrictively provided in said partial-trench so as not to get over said internal wall insulating film formed on a side wall of said partial trench.

15. (Original) A semiconductor device comprising:

a semiconductor layer;

a plurality of semiconductor elements formed on said semiconductor layer;
an isolation film provided in a surface of said semiconductor layer, said
semiconductor elements being electrically isolated from each other by said isolation film;
a PN junction portion formed by two semiconductor regions of different conductivity
types in said semiconductor layer provided under said isolation film; and
a local crystal defect region provided along said PN junction under said isolation film
on at least one of sides in said two semiconductor regions.

16. (Original) The semiconductor device according to claim 15, wherein said crystal
defect region is a region in which an impurity of the same conductivity type as a conductivity
type of said semiconductor region having said crystal defect region formed therein is
introduced in a relatively high concentration.

17. (Original) The semiconductor device according to claim 15, wherein said crystal
defect region is a region in which an impurity of a different conductivity type from said
conductivity type of said semiconductor region having said crystal defect region formed
therein is introduced in a relatively high concentration.

18. (Original) The semiconductor device according to claim 15, wherein said
semiconductor device is an SOI semiconductor device formed on an SOI substrate including
a silicon substrate, a buried oxide film provided on said silicon substrate and an SOI layer
provided on said buried oxide film,
said semiconductor layer being said SOI layer.

19. (Original) A semiconductor device comprising:

an SOI substrate including a semiconductor substrate, a buried oxide film provided on said semiconductor substrate and an SOI layer provided on said buried oxide film;

a plurality of semiconductor elements formed on said SOI layer;

an isolation film provided in a surface of said SOI layer, said semiconductor elements being electrically isolated from each other by said isolation film;

a PN junction portion formed by two semiconductor regions of different conductivity types in said SOI layer provided under said isolation film; and

a first polysilicon film buried to penetrate through the vicinity of said PN junction portion on at least one of sides in said two semiconductor regions.

20. (Original) The semiconductor device according to claim 19, wherein said semiconductor elements include a MOS transistor,

said MOS transistor having a source - drain region provided in a surface of said SOI layer, and

a second polysilicon film is further buried to penetrate through said source - drain region adjacent to said isolation film.

21. (Original) The semiconductor device according to claim 20, further comprising first and second local crystal defect regions provided in the vicinity of an interface between said silicon substrate and said buried oxide film under said first and second polysilicon films.

22. (Original) A semiconductor device comprising:

a semiconductor layer;

a plurality of semiconductor elements formed on said semiconductor layer;
an isolation film formed in a surface of said semiconductor layer, said semiconductor elements being electrically isolated from each other by said isolation film;
a PN junction portion formed by two semiconductor regions of different conductivity types in said semiconductor layer provided under said isolation film: and
an upper nitride film provided in a position opposed to a top; of said PN junction portion with said isolation film interposed therebetween across said two semiconductor regions.

23. (Original) The semiconductor device according to claim 22, wherein said semiconductor elements include a MOS transistor,

said MOS transistor having a side wall spacer formed of a nitride film which is provided on side surfaces of a gate electrode and a gate insulating film, and

a thickness of said upper nitride film is substantially equal to that of said side wall spacer.

24. (Original) The semiconductor device according to claim 23, wherein said upper nitride film and said side wall spacer have a two - layered structure, and respective first layers and respective second layers have thicknesses substantially equal to each other.

25. (Original) The semiconductor device according to claim 22, wherein said semiconductor device is an SOI semiconductor device formed on an SOI substrate including a silicon substrate, a buried oxide film provided on said silicon substrate and an SOI layer provided on said buried oxide film,

said semiconductor layer being said SOI layer.

26. (Original) A semiconductor device comprising:

a semiconductor layer;

a plurality of semiconductor elements formed on said semiconductor layer; and

an isolation film formed in a surface of said semiconductor layer, said semiconductor elements being electrically isolated from each other by said isolation film; and

a PN junction portion formed by two semiconductor regions of different conductivity types in said semiconductor layer provided under said isolation film,

said isolation film having a plurality of silicon islands therein,

said silicon islands being provided in a position corresponding to a top of said PN junction portion in said isolation film across said two semiconductor regions.

27. (Original) The semiconductor device according to claim 26, wherein said semiconductor device is an SOI semiconductor device formed on an SOI substrate including a silicon substrate, a buried oxide film provided on said silicon substrate and an SOI layer provided on said buried oxide film,

said semiconductor layer being said SOI layer.

Claims 28-30 (Canceled)